

Wetlands Protection and Management Policies in Türkiye

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Wetlands and natural life have a deeply interconnected relationship. Wetlands provide a diverse range of habitats and resources that support numerous species, contributing to the overall health and balance of ecosystems

Wetlands are highly productive ecosystems. The nutrient-rich soils and abundant sunlight in wetland environments support vigorous plant growth. This productivity provides a foundation for the food chains and sustains a diverse range of wildlife. Wetlands also play a crucial role in nutrient cycling, recycling organic matter, and maintaining the overall ecological balance.

The relationship between wetlands and natural life is intricate and essential for the functioning of ecosystems. By protecting wetlands, we ensure the conservation of biodiversity, provide habitats for countless species, and support the interconnectedness of life in our natural world.

In Summary;Protecting wetlands is important for conserving biodiversity, maintaining water quality, reducing flood risks, sequestering carbon, supporting tourism, and preserving cultural and historical heritage. By safeguarding these vital ecosystems, we promote sustainable development and ensure a healthier and more resilient environment for future generations.

Shrinking wetlands and groundwater resources

Water shortages in cities and shrinking wetlands and groundwater resources are interconnected and can have a cause-and-effect relationship. Therefore we can talk about interrelation between the shrinking of lakes and wetlands and the water shortage in cities.Cities have high water demands due to population growth, industrial activities, and domestic consumption. As cities expand, there is often an increased need for water resources.

When wetlands shrink or are lost, and groundwater resources decline, it becomes challenging to meet the rising water demand of urban areas. This can result in water shortages, especially during periods of drought or when water extraction exceeds sustainable levels.

Approximately half of the drinking water of cities in the world and in Türkiye is drawn from groundwater. During dry periods, the water demand of cities is met by excessive withdrawal from groundwater.

Wetlands play a crucial role in maintaining water availability by acting as natural sponges that absorb and store rainfall. They also provide a habitat for plants and animals and help purify water. Wetlands are often connected to groundwater systems, and they contribute to the replenishment of groundwater through a process known as groundwater recharge.

When wetlands shrink or are degraded due to urbanization or agriculture, the capacity for water storage and recharge is diminished. This reduction in wetland area can lead to a decrease in the availability of groundwater.

Wetlands are fed by both surface and groundwater. Shrinking wetlands in Türkiye is mostly due to the diversing the water flowing into wetlands for irrigation purpose. The shrinking of lakes and wetlands is an important indication that water management is not sustainable.

In summary, the shrinking of wetlands and depletion of groundwater resources can contribute to water shortages in cities. The loss of wetlands reduces water storage capacity and hampers groundwater recharge, while excessive groundwater extraction exacerbates the problem. Sustainable water management and conservation efforts are essential to mitigate these issues and ensure a more reliable water supply for urban areas.

Water management policies in Türkiye and wetlands protection

Türkiye is not water-poor like some neighboring countries, but it is not a water-rich country either. It is a country that has to use its water rationally and efficiently. To this end, it strives to develop its legal, institutional and intellectual capacity. Türkiye is trying to raise awareness about efficient water use across the country. Basin scale water management planning, protection and water allocation, flood, drought action plans reports are ready.

Türkiye has been going through a transition period for the last 10 years to develop its New Water Policy. He has taken very important steps in this regard. These plans will be implemented in a short time at the river basin scale in next years.

Türkiye develop its water policy by taking into account the balance between economic, ecological and social development goals. It brought its Water Policies into harmony with social and economic targets by highlighting the protection of ecological balance.

In Türkiye;72% of the total water is used in agriculture. As of 2022, 72% of the agricultural areas is irrigated by open system while 28% are piped (modern irrigation systems). Almost all of the irrigation networks started to build as a pipe network system(drip,springler irrigation systems) since last 15 years . Existing irrigation systems are also being converted to modern systems. This rehabilitation and conversion has reached 30% of the total irrigation systems.

In Türkiye, the irrigation efficiency is around 50% that means that inefficient use of water in agriculture.

In the first years of the Turkish Republic, the drying of wetlands and swamps was done against the malaria epidemic. In recent years, there are a few examples of drying wetlands and opening them up for agriculture, but this is not very common.

Farmers should be more informed about the efficient use of water and the preservation of ecosystem balance.

Water user organizations should play a very important role here. For this, the structural problems of water user organizations should be solved and their organizational structures should be strengthened.

The most of the river basin scale water management and protection plans have already been completed. It is time to implement them in river basins by strong basin-wide management authorities.

Turkey has developed and started to implement various policies and regulations related to water management and wetland conservation since last 12 years . For instance, the Law on Soil and Water Conservation, the Law on Water Pollution Control, and the National Wetland Action Plan provide a framework for the protection and sustainable use of wetlands. Additionally, Türkiye has designated several wetlands as protected areas under national legislation.

However, the effectiveness of policies and their implementation can vary. Some challenges and potential concerns in the protection of wetlands in Türkiye include:

Biological Diversity Conservation Draft, Law

The Draft Law on Conservation of Biological Diversity is coming to the Turkish Grand National Assembly for the 4th time.

It has been on the agenda since 2002 and was submitted to the Parliament 3 times as the "Draft Law for Conservation of Nature and Biological Diversity", but could not be passed due to intense reactions. It was prepared this time as the "Draft Law on the Conservation of Biological Diversity".

the purpose of the law is

“to protect, develop and sustainably benefit from the biological riches of our country.

This Law covers the procedures and principles regarding the protection of our country's biological diversity,

Its sustainable management,

Access to genetic resources

In the draft law, it is stated that attention will be paid to the sustainable use of biological diversity by considering the balance of protection and sustainable use of biological diversity in national development. The basic principles for the protection of biological diversity are summarized as follows:

In the protection and sustainability of biological diversity;

- Observing the balance of protection and use,
- Taking necessary measures against threats that may cause serious or irreparable damage to biological diversity,
- Protection, improvement and sustainability of important species and habitats in terms of biodiversity,
- Protection of ecological balance, landscape and natural ecosystem values,

- Ensuring transparency, the use of the right to information and the participation of the society in the administration and decision-making processes related to the conservation of biological diversity,
- Determining the biological diversity of our country for all ecosystems and identifying the species and habitats that need to be protected,

Conclusions

Wetlands Action plans implementation is a matter of river basins wide water protection and management plans . Türkiye still has not fully transitioned to integrated sustainable water management at the basin scale. Legal and institutional capacity building studies continue. For this reason, there are deficiencies in the full and effective implementation of some plans, such as wetlands action plans. Moreover ;

Rapid urbanization, and building more than 600 small dams for irrigation since last 10 years lead to increased water extraction and alteration of natural water flows, affecting wetlands' hydrology. Especially these small dams for irrigation projects have disrupted water supply to wetlands, potentially impacting their health and functionality.

Pollution from agricultural runoff and industrial activities, have degraded water quality in wetlands. In fact insufficient monitoring and enforcement have led to non-compliance with regulations, potentially resulting in wetland degradation.

Rising temperatures, altered precipitation patterns have impacted wetland ecosystems, including changes in water availability, increased salinity, and shifts in species distributions.

I need to mention that while there may be challenges and room for improvement, Türkiye has also made efforts to protect and manage wetlands. These include initiatives for wetland restoration, conservation projects, and collaboration with international organizations such as the Ramsar Convention.

The Biological Diversity Conservation Law Proposal Draft and Draft Water Law should be taken into account together when they will be evaluated in the National Assembly.

In summary, all these efforts should exactly be improved and actions should be taken by passing new draft Water Law and Biological Diversity Conservation Law from National Assembly soon leading to building more effective structural capacity on River Basins.

However, before these laws are passed by the National Assembly , necessary institutional capacity building preparations should be made so that they can be implemented more effectively.

Biography



Dursun Yıldız (Msc.) is a hydropolitics specialist and Director of the Hydropolitics Academy Association located in Ankara-Turkey. He is a civil engineer and used to be Deputy Director at State Hydraulic Works in Turkey; completed a hydroinformatics post graduate course at the IHE in Delft, a Technical training program in USBR-USA, and a master's degree in Hydropolitics at the Hacettepe University-Turkey. He has over 5 years of teaching experience in some Turkish Universities and now works as head of his own Hydro Energy & Strategy consulting company located in Ankara. He has published several international articles and 15 books. He received the Most Successful Researcher Award on International Water Issues from Turkish

Agricultural Association in 2008 and from the Central Union of Irrigation Cooperatives in 2016. He received the Professional Services Award of Excellence from İstanbul Çekmeköy Rotary Club in 2021. He becomes a part-time lecturer at the IZTECH International Water Resources Department in In the 2020-2021 academic year

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